

SEQUENCE LISTING

<110> Turner, C. Alexander Jr.

Hilbun, Erin

Donoho, Gregory

Scoville, John

Wattler, Frank

Friedrich, Glenn

Abuin, Alejandro

Zambrowicz, Brian

Sands, Arthur T.

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Thr Gly Arg Asn Trp Lys Gln Tyr Lys Gln Glu Asp Ser Ile Trp Thr
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Phe Ala Gly Asn Met Asn Ala Asp Ser Val Val His His Lys Leu Leu
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His Ser Val Arg Ala Arg Phe Val Arg Phe Val Pro Leu Glu Trp Asn
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Lys Ser Asp Val Ala Asp Phe Asp Gly Arg Ser Ser Leu Leu Tyr Arg
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Phe Lys Ser Met Gln Gly Asp Gly Val Leu Phe His Gly Glu Gly Gln
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Arg Gly Asp His Ile Thr Leu Glu Leu Gln Lys Gly Arg Leu Ala Leu
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Val Gln Ile Tyr Ser Gly Asn Ser Tyr Tyr Phe Gly Gly Cys Pro Asp
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aatgcagtga	ccacgggtca	ttcttcatca	gatccttttgc	ggaagacaga	tgagcggggaa	3540

ccactcacaa atgctgttcg aagtgattcg gcagtcatcg gaggggtgat agcagtggtg 3600
atattcatca tcttctgtat catcgccatc atgaccgggt tcctctacca gcacaaggcag 3660
tcacatcgta cgagccagat gaaggagaag gaatatccag aaaatttggaa cagttccttc 3720
agaaaatgaaa ttgacttgca aaacacagtg agcgagtgta aacggataa tttcatctga 3780

<210> 4

<211> 1259

<212> PRT

<213> homo sapiens

<220>

<221> VARIANT

<222> (1) ... (1259)

<223> Xaa = Any Amino Acid

<400> 4

Met	Asp	Ser	Leu	Pro	Arg	Leu	Thr	Ser	Val	Leu	Thr	Leu	Leu	Phe	Ser			
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Gly	Leu	Trp	His	Leu	Gly	Leu	Thr	Ala	Thr	Asn	Tyr	Asn	Cys	Asp	Asp			
															20	25	30	
Pro	Leu	Ala	Ser	Leu	Leu	Ser	Pro	Met	Ala	Phe	Ser	Ser	Ser	Ser	Asp			
															35	40	45	
Leu	Thr	Gly	Thr	His	Ser	Pro	Ala	Gln	Leu	Asn	Trp	Arg	Val	Gly	Thr			
															50	55	60	
Gly	Gly	Trp	Ser	Pro	Ala	Asp	Ser	Asn	Ala	Gln	Gln	Trp	Leu	Gln	Met			
															65	70	75	80
Asp	Leu	Gly	Asn	Arg	Val	Glu	Ile	Thr	Ala	Val	Ala	Thr	Gln	Gly	Arg			
															85	90	95	
Tyr	Gly	Ser	Ser	Asp	Trp	Val	Thr	Ser	Tyr	Ser	Leu	Met	Phe	Ser	Asp			
															100	105	110	
Thr	Gly	Arg	Asn	Trp	Lys	Gln	Tyr	Lys	Gln	Glu	Asp	Ser	Ile	Trp	Thr			
															115	120	125	
Phe	Ala	Gly	Asn	Met	Asn	Ala	Asp	Ser	Val	Val	His	His	Lys	Leu	Leu			
															130	135	140	
His	Ser	Val	Arg	Ala	Arg	Phe	Val	Arg	Phe	Val	Pro	Leu	Glu	Trp	Asn			
															145	150	155	160
Pro	Ser	Gly	Lys	Ile	Gly	Met	Arg	Val	Glu	Val	Tyr	Gly	Cys	Ser	Tyr			
															165	170	175	
Lys	Ser	Asp	Val	Ala	Asp	Phe	Asp	Gly	Arg	Ser	Ser	Leu	Leu	Tyr	Arg			
															180	185	190	
Phe	Asn	Gln	Lys	Leu	Met	Ser	Thr	Leu	Lys	Asp	Val	Ile	Ser	Leu	Lys			
															195	200	205	
Phe	Lys	Ser	Met	Gln	Gly	Asp	Gly	Val	Leu	Phe	His	Gly	Glu	Gly	Gln			
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Arg	Gly	Asp	His	Ile	Thr	Leu	Glu	Leu	Gln	Lys	Gly	Arg	Leu	Ala	Leu			
															225	230	235	240
His	Leu	Asn	Leu	Gly	Asp	Ser	Lys	Ala	Arg	Leu	Ser	Ser	Ser	Leu	Pro			
															245	250	255	
Ser	Ala	Thr	Leu	Gly	Ser	Leu	Leu	Asp	Asp	Gln	His	Trp	His	Xaa	Val			
															260	265	270	
Leu	Ile	Glu	Arg	Val	Gly	Lys	Gln	Val	Asn	Phe	Thr	Val	Asp	Lys	His			
															275	280	285	
Thr	Gln	His	Phe	Arg	Thr	Lys	Gly	Glu	Thr	Asp	Ala	Leu	Asp	Ile	Asp			
															290	295	300	
Tyr	Glu	Gly	Asn	Val	Thr	Phe	Ser	Cys	Ser	Glu	Pro	Gln	Ile	Val	Pro			
															305	310	315	320

Ile	Thr	Phe	Val	Asn	Ser	Ser	Gly	Ser	Tyr	Leu	Leu	Leu	Pro	Gly	Thr
				325					330				335		
Pro	Gln	Ile	Asp	Gly	Leu	Ser	Val	Ser	Phe	Gln	Phe	Arg	Thr	Trp	Asn
				340				345				350			
Lys	Asp	Gly	Leu	Leu	Leu	Ser	Thr	Glu	Leu	Ser	Glu	Gly	Ser	Gly	Thr
				355				360				365			
Leu	Leu	Leu	Ser	Leu	Glu	Gly	Gly	Ile	Leu	Arg	Leu	Val	Ile	Gln	Lys
				370				375			380				
Met	Thr	Glu	Arg	Val	Ala	Glu	Ile	Leu	Thr	Gly	Ser	Asn	Leu	Asn	Asp
				385				390			395			400	
Gly	Leu	Trp	His	Ser	Val	Ser	Ile	Asn	Ala	Arg	Arg	Asn	Arg	Ile	Thr
				405					410				415		
Leu	Thr	Leu	Asp	Asp	Glu	Ala	Ala	Pro	Pro	Ala	Pro	Asp	Ser	Thr	Trp
				420				425				430			
Val	Gln	Ile	Tyr	Ser	Gly	Asn	Ser	Tyr	Tyr	Phe	Gly	Gly	Cys	Pro	Asp
				435				440				445			
Asn	Leu	Thr	Asp	Ser	Gln	Cys	Leu	Asn	Pro	Ile	Lys	Ala	Phe	Gln	Gly
				450				455			460				
Cys	Met	Arg	Leu	Ile	Phe	Ile	Asp	Asn	Gln	Pro	Lys	Asp	Leu	Ile	Ser
				465				470			475			480	
Val	Gln	Gln	Gly	Ser	Leu	Gly	Asn	Phe	Ser	Asp	Leu	His	Ile	Asp	Leu
				485				490				495			
Cys	Ser	Ile	Lys	Asp	Arg	Cys	Leu	Pro	Asn	Tyr	Cys	Glu	His	Gly	Gly
				500				505				510			
Ser	Cys	Ser	Gln	Ser	Trp	Thr	Thr	Phe	Tyr	Cys	Asn	Cys	Ser	Asp	Thr
				515				520				525			
Ser	Tyr	Thr	Gly	Ala	Thr	Cys	His	Asn	Ser	Ile	Tyr	Glu	Gln	Ser	Cys
				530				535			540				
Glu	Val	Tyr	Arg	His	Gln	Gly	Asn	Thr	Ala	Gly	Phe	Phe	Tyr	Ile	Asp
				545				550			555			560	
Ser	Asp	Gly	Ser	Gly	Pro	Leu	Gly	Pro	Leu	Gln	Val	Tyr	Cys	Asn	Ile
				565					570			575			
Thr	Glu	Asp	Lys	Ile	Trp	Thr	Ser	Val	Gln	His	Asn	Asn	Thr	Glu	Leu
				580				585				590			
Thr	Arg	Val	Arg	Gly	Ala	Asn	Pro	Glu	Lys	Pro	Tyr	Ala	Met	Ala	Leu
				595				600				605			
Asp	Tyr	Gly	Gly	Ser	Met	Glu	Gln	Leu	Glu	Ala	Val	Ile	Asp	Gly	Ser
				610				615			620				
Glu	His	Cys	Glu	Gln	Glu	Val	Ala	Tyr	His	Cys	Arg	Arg	Ser	Arg	Leu
				625				630			635			640	
Leu	Asn	Thr	Pro	Asp	Gly	Thr	Pro	Phe	Thr	Trp	Trp	Ile	Gly	Arg	Ser
				645					650			655			
Asn	Glu	Arg	His	Pro	Tyr	Trp	Gly	Gly	Ser	Pro	Pro	Gly	Val	Gln	Gln
				660				665				670			
Cys	Glu	Cys	Gly	Leu	Asp	Glu	Ser	Cys	Leu	Asp	Ile	Gln	His	Phe	Cys
				675				680				685			
Asn	Cys	Asp	Ala	Asp	Lys	Asp	Glu	Trp	Thr	Asn	Asp	Thr	Gly	Phe	Leu
				690				695			700				
Ser	Phe	Lys	Asp	His	Leu	Pro	Val	Thr	Gln	Ile	Val	Ile	Thr	Asp	Thr
				705				710			715			720	
Asp	Arg	Ser	Asn	Ser	Glu	Ala	Ala	Trp	Arg	Ile	Gly	Pro	Leu	Arg	Cys
				725					730				735		
Tyr	Gly	Asp	Arg	Arg	Phe	Trp	Asn	Ala	Val	Ser	Phe	Tyr	Thr	Glu	Ala
				740				745				750			
Ser	Tyr	Leu	His	Phe	Pro	Thr	Phe	His	Ala	Glu	Phe	Ser	Ala	Asp	Ile
				755				760				765			

Ser Phe Phe Phe Lys Thr Thr Ala Leu Ser Gly Val Phe Leu Glu Asn
 770 775 780
 Leu Gly Ile Lys Asp Phe Ile Arg Leu Glu Ile Ser Ser Pro Ser Glu
 785 790 795 800
 Ile Thr Phe Ala Ile Asp Val Gly Asn Gly Pro Val Glu Leu Val Val
 805 810 815
 Gln Ser Pro Ser Leu Leu Asn Asp Asn Gln Trp His Tyr Val Arg Ala
 820 825 830
 Glu Arg Asn Leu Lys Glu Thr Ser Leu Gln Val Asp Asn Leu Pro Arg
 835 840 845
 Ser Thr Arg Glu Thr Ser Glu Glu Gly His Phe Arg Leu Gln Leu Asn
 850 855 860
 Ser Gln Leu Phe Val Gly Gly Thr Ser Ser Arg Gln Lys Gly Phe Leu
 865 870 875 880
 Gly Cys Ile Arg Ser Leu His Leu Asn Gly Gln Lys Met Asp Leu Glu
 885 890 895
 Glu Arg Ala Lys Val Thr Ser Gly Val Arg Pro Gly Cys Pro Gly His
 900 905 910
 Cys Ser Ser Tyr Gly Ser Ile Cys His Asn Gly Gly Lys Cys Val Glu
 915 920 925
 Lys His Asn Gly Tyr Leu Cys Asp Cys Thr Asn Ser Pro Tyr Glu Gly
 930 935 940
 Pro Phe Cys Lys Lys Glu Val Ser Ala Val Phe Glu Ala Gly Thr Ser
 945 950 955 960
 Val Thr Tyr Met Phe Gln Glu Pro Tyr Pro Val Thr Lys Asn Ile Ser
 965 970 975
 Leu Ser Ser Ser Ala Ile Tyr Thr Asp Ser Ala Pro Ser Lys Glu Asn
 980 985 990
 Ile Ala Leu Ser Phe Val Thr Thr Gln Ala Pro Ser Leu Leu Leu Phe
 995 1000 1005
 Ile Asn Ser Ser Ser Gln Asp Phe Val Val Val Leu Leu Cys Lys Asn
 1010 1015 1020
 Gly Ser Leu Gln Val Arg Tyr His Leu Asn Lys Glu Glu Thr His Val
 1025 1030 1035 1040
 Phe Thr Ile Asp Ala Asp Asn Phe Ala Asn Arg Arg Met His His Leu
 1045 1050 1055
 Lys Ile Asn Arg Glu Gly Arg Glu Leu Thr Ile Gln Met Asp Gln Gln
 1060 1065 1070
 Leu Arg Leu Ser Tyr Asn Phe Ser Pro Glu Val Glu Phe Arg Val Ile
 1075 1080 1085
 Arg Ser Leu Thr Leu Gly Lys Val Thr Glu Asn Leu Gly Leu Asp Ser
 1090 1095 1100
 Glu Val Ala Lys Ala Asn Ala Met Gly Phe Ala Gly Cys Met Ser Ser
 1105 1110 1115 1120
 Val Gln Tyr Asn His Ile Ala Pro Leu Lys Ala Ala Leu Arg His Ala
 1125 1130 1135
 Thr Val Ala Pro Val Thr Val His Gly Thr Leu Thr Glu Ser Ser Cys
 1140 1145 1150
 Gly Phe Met Val Asp Ser Asp Val Asn Ala Val Thr Thr Val His Ser
 1155 1160 1165
 Ser Ser Asp Pro Phe Gly Lys Thr Asp Glu Arg Glu Pro Leu Thr Asn
 1170 1175 1180
 Ala Val Arg Ser Asp Ser Ala Val Ile Gly Gly Val Ile Ala Val Val
 1185 1190 1195 1200
 Ile Phe Ile Ile Phe Cys Ile Ile Gly Ile Met Thr Arg Phe Leu Tyr
 1205 1210 1215

Gln His Lys Gln Ser His Arg Thr Ser Gln Met Lys Glu Lys Glu Tyr
 1220 1225 1230
 Pro Glu Asn Leu Asp Ser Ser Phe Arg Asn Glu Ile Asp Leu Gln Asn
 1235 1240 1245
 Thr Val Ser Glu Cys Lys Arg Glu Tyr Phe Ile
 1250 1255

<210> 5
 <211> 108
 <212> DNA
 <213> homo sapiens

<400> 5
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 ttaggattaa cagcgacaaa ctaccttgc aggaaacatg aatgctga 108

<210> 6
 <211> 35
 <212> PRT
 <213> homo sapiens

<400> 6
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 1 5 10 15
 Gly Leu Trp His Leu Gly Leu Thr Ala Thr Asn Tyr Leu Cys Arg Lys
 20 25 30

His.Glu Cys
 35

<210> 7
 <211> 753
 <212> DNA
 <213> homo sapiens

<400> 7
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 atggctttt ccagttcctc agacctca ggcactcaca gcccagctca actcaactgg 180
 agagttggaa ctggcggttg gtccccagca gattccaatg ctcaacagtg gctccagatg 240
 gacctggaa acagagtaga gattacagca gtggccacgc aggaaagata cggaagctct 300
 gactgggtga cgagttacag cctgatgttc agtgacacag gacgcaactg gaaacagtac 360
 aaacaagaag acagcatctg gacctttgca ggaaacatga atgctgacag cgtggtgac 420
 cacaagctat tgcaactcgt gagagcccga tttgttcgtt ttgtgcccct ggaatggaat 480
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 ctcaaagatg tgatctccct gaagttcaag agcatgcaag gagatgggt cctgttccat 660
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<210> 8
 <211> 250
 <212> PRT
 <213> homo sapiens

<400> 8
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				20		25									30
Pro	Leu	Ala	Ser	Leu	Leu	Ser	Pro	Met	Ala	Phe	Ser	Ser	Ser	Ser	Asp
				35		40									45
Leu	Thr	Gly	Thr	His	Ser	Pro	Ala	Gln	Leu	Asn	Trp	Arg	Val	Gly	Thr
				50		55									60
Gly	Gly	Trp	Ser	Pro	Ala	Asp	Ser	Asn	Ala	Gln	Gln	Trp	Leu	Gln	Met
				65		70									80
Asp	Leu	Gly	Asn	Arg	Val	Glu	Ile	Thr	Ala	Val	Ala	Thr	Gln	Gly	Arg
				85		90									95
Tyr	Gly	Ser	Ser	Asp	Trp	Val	Thr	Ser	Tyr	Ser	Leu	Met	Phe	Ser	Asp
				100		105									110
Thr	Gly	Arg	Asn	Trp	Lys	Gln	Tyr	Lys	Gln	Glu	Asp	Ser	Ile	Trp	Thr
				115		120									125
Phe	Ala	Gly	Asn	Met	Asn	Ala	Asp	Ser	Val	Val	His	His	Lys	Leu	Leu
				130		135									140
His	Ser	Val	Arg	Ala	Arg	Phe	Val	Arg	Phe	Val	Pro	Leu	Glu	Trp	Asn
				145		150									160
Pro	Ser	Gly	Lys	Ile	Gly	Met	Arg	Val	Glu	Val	Tyr	Gly	Cys	Ser	Tyr
				165		170									175
Lys	Ser	Asp	Val	Ala	Asp	Phe	Asp	Gly	Arg	Ser	Ser	Leu	Leu	Tyr	Arg
				180		185									190
Phe	Asn	Gln	Lys	Leu	Met	Ser	Thr	Leu	Lys	Asp	Val	Ile	Ser	Leu	Lys
				195		200									205
Phe	Lys	Ser	Met	Gln	Gly	Asp	Gly	Val	Leu	Phe	His	Gly	Glu	Gly	Gln
				210		215									220
Arg	Gly	Asp	His	Ile	Thr	Leu	Glu	Leu	Gln	Lys	Gly	Arg	Leu	Ala	Leu
				225		230									240
His	Leu	Asn	Leu	Val	Val	Cys	Ser	Ser	Pro						
				245		250									

<210> 9

<211> 840

<212> DNA

<213> homo sapiens

<400> 9

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atggctttt	ccagttcctc	agacactca	ggcactcaca	gcccgagctca	actcaactgg		180
agagttggaa	ctggcggttg	gtccccagca	gattccaatg	ctcaacagtg	gctccagatg		240
gacctgggaa	acagagtaga	gattacagca	gtggccacgc	aggaaagata	cggaagctct		300
gactgggtga	cgagttacag	cctgatgttc	agtgacacag	gacgcaactg	gaaacagttac		360
aaacaagaag	acagcatctg	gacctttgca	ggaaacatga	atgctgacag	cgtggcgcac		420
cacaagctat	tgcactcagt	gagagcccgta	tttggcgct	ttgtgcccct	ggaatggaaat		480
cccagtggga	agattggcat	gagagtggag	gtctacggat	gttcctataa	atcagacgtt		540
gctgactttg	atggccgaag	ctcacttctg	tacaggttca	atcagaagtt	gatgagttact		600
ctcaaagatg	tgatctccct	gaagttcaag	agcatgcaag	gagatgggt	cctgtccat		660
ggagaagggtc	agcgtggaga	ccacatcacc	ttggaactcc	agaaggggag	gctcgcccta		720
cacccaattt	tgggtgacag	caaagcgcgg	ctaagcaatt	gccctctgccc	accctgggca		780
gcctccttgg	tgaccagcac	tggcactygg	tcctcattga	gcgggtgggc	aaggcaggta		840

<210> 10

<211> 279

<212> PRT

<213> homo sapiens

<220>

<221> VARIANT

<222> (1)...(279)

<223> Xaa = Any Amino Acid

<400> 10

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Gly Leu Trp His Leu Gly Leu Thr Ala Thr Asn Tyr Asn Cys Asp Asp
20 25 30
Pro Leu Ala Ser Leu Leu Ser Pro Met Ala Phe Ser Ser Ser Asp
35 40 45
Leu Thr Gly Thr His Ser Pro Ala Gln Leu Asn Trp Arg Val Gly Thr
50 55 60
Gly Gly Trp Ser Pro Ala Asp Ser Asn Ala Gln Gln Trp Leu Gln Met
65 70 75 80
Asp Leu Gly Asn Arg Val Glu Ile Thr Ala Val Ala Thr Gln Gly Arg
85 90 95
Tyr Gly Ser Ser Asp Trp Val Thr Ser Tyr Ser Leu Met Phe Ser Asp
100 105 110
Thr Gly Arg Asn Trp Lys Gln Tyr Lys Gln Glu Asp Ser Ile Trp Thr
115 120 125
Phe Ala Gly Asn Met Asn Ala Asp Ser Val Val His His Lys Leu Leu
130 135 140
His Ser Val Arg Ala Arg Phe Val Arg Phe Val Pro Leu Glu Trp Asn
145 150 155 160
Pro Ser Gly Lys Ile Gly Met Arg Val Glu Val Tyr Gly Cys Ser Tyr
165 170 175
Lys Ser Asp Val Ala Asp Phe Asp Gly Arg Ser Ser Leu Leu Tyr Arg
180 185 190
Phe Asn Gln Lys Leu Met Ser Thr Leu Lys Asp Val Ile Ser Leu Lys
195 200 205
Phe Lys Ser Met Gln Gly Asp Gly Val Leu Phe His Gly Glu Gly Gln
210 215 220
Arg Gly Asp His Ile Thr Leu Glu Leu Gln Lys Gly Arg Leu Ala Leu
225 230 235 240
His Leu Asn Leu Gly Asp Ser Lys Ala Arg Leu Ser Thr Cys Pro Leu
245 250 255
Pro Pro Trp Ala Ala Ser Trp Met Thr Ser Thr Gly Thr Xaa Ser Ser
260 265 270
Leu Ser Gly Trp Ala Ser Arg
275

<210> 11

<211> 1749

<212> DNA

<213> homo sapiens

<400> 11

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atggctttt ccagttcctc agacactcaact ggcactcaca gcccagctca actcaactgg	180
agagttggaa ctggcggttg gtccccagca gattccaatg ctcaacagtg gctccagatg	240
gacctggaa acagagtaga gattacagca gtggccacgc aggaaagata cggaagctct	300

gactgggtga	cgagttacag	cctgatgttc	agtgacacag	gacgcaactg	gaaacagtac	360
aaacaagaag	acagcatctg	gaccttgca	gaaaacatga	atgctgacag	cgtggcgcac	420
cacaagctat	tgcactca	gagagccga	tttggcgct	ttgtccccct	ggaatggaat	480
cccagtggga	agattggcat	gagagtcgag	gtctacggat	gttccataa	atcagacgtt	540
gctgactttg	atggccgaag	ctcacttctg	tacaggttca	atcagaagtt	gatgagta	600
ctcaaagatg	tgatctccct	gaagttcaag	agcatgcaag	gagatgggt	cctgttccat	660
ggagaagg	tcgatggaga	ccacatcacc	ttggaactcc	agaaggggag	gctcgcccta	720
caccaatt	tgggtgacag	caaagcgg	ctcagcagca	gcttgccctc	tgccaccctg	780
ggcagcctcc	tggatgacca	gcactggcac	tyggtcctca	ttgagcgggt	ggcaagcag	840
gtgaacttca	cggggacaa	gcacacacag	cacttccgca	ccaagggcga	gacggatgcc	900
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tttttaaaga	aaaacttcca	tggatgcac	gaaaacc	actacaatgg	agtaaacata	1020
attracctgg	ctaagagacg	aaagcatcag	atctatactg	tggcaatgt	cacttttcc	1080
tgctccgaac	cacagattgt	gccatcaca	tttgyaact	ccagcggcag	ctattgctg	1140
ctgcccggca	ccccccaaat	tgatgggctc	tcagttagtt	tccagttcg	aacatggaac	1200
aaggatgg	tgcttctgtc	cacagagctg	tctgagggt	cggaaaccct	gctgctgagc	1260
ctggagggtg	gaatcctgag	actcgtgatt	cagaaaatga	cagaacgcgt	agctgaaatc	1320
ctcacaggca	gcaacttga	tgatggcctg	tggcactcgg	ttagcatcaa	cggcaggagg	1380
aaccgcac	cgctcact	ggatgatgaa	gcagcacccc	cggctccaga	cagcacttgg	1440
gtcagattt	attctggaaa	tagctactat	tttggaggt	tttgccaaac	tactgtgaac	1500
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acactgg	cacctgcccac	aactccatct	acgagcaatc	ctgcgagg	tacaggcacc	1620
agggaaatac	agccggcttc	ttctacatcg	actcagatgg	cagcggccca	ctgggacctc	1680
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<210> 12

<211> 582

<212> PRT

<213> homo sapiens

<220>

<221> VARIANT

<222> (1)...(582)

<223> Xaa = Any Amino Acid

<400> 12

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Gly	Leu	Trp	His	Leu	Gly	Leu	Thr	Ala	Thr	Asn	Tyr	Asn	Cys	Asp	Asp
Pro	Leu	Ala	Ser	Leu	Leu	Ser	Pro	Met	Ala	Phe	Ser	Ser	Ser	Ser	Asp
Leu	Thr	Gly	Thr	His	Ser	Pro	Ala	Gln	Leu	Asn	Trp	Arg	Val	Gly	Thr
Gly	Gly	Trp	Ser	Pro	Ala	Asp	Ser	Asn	Ala	Gln	Gln	Trp	Leu	Gln	Met
Asp	Leu	Gly	Asn	Arg	Val	Glu	Ile	Thr	Ala	Val	Ala	Thr	Gln	Gly	Arg
Tyr	Gly	Ser	Ser	Asp	Trp	Val	Thr	Ser	Tyr	Ser	Leu	Met	Phe	Ser	Asp
Thr	Gly	Arg	Asn	Trp	Lys	Gln	Tyr	Lys	Gln	Glu	Asp	Ser	Ile	Trp	Thr
Phe	Ala	Gly	Asn	Met	Asn	Ala	Asp	Ser	Val	Val	His	His	Lys	Leu	Leu
His	Ser	Val	Arg	Ala	Arg	Phe	Val	Arg	Phe	Val	Pro	Leu	Glu	Trp	Asn

145	150	155	160
Pro Ser Gly Lys Ile	Gly Met Arg Val	Glu Val Tyr Gly Cys Ser	Tyr
165	170	175	
Lys Ser Asp Val Ala Asp Phe Asp	Gly Arg Ser Ser	Leu Leu Tyr	Arg
180	185	190	
Phe Asn Gln Lys Leu Met Ser	Thr Leu Lys Asp Val	Ile Ser Leu	Lys
195	200	205	
Phe Lys Ser Met Gln Gly Asp	Gly Val Leu Phe His	Gly Glu Gly	Gln
210	215	220	
Arg Gly Asp His Ile Thr	Leu Glu Leu Gln Lys	Gly Arg Leu Ala	Leu
225	230	235	240
His Leu Asn Leu Gly Asp Ser Lys	Ala Arg Leu Ser Ser	Leu Pro	
245	250	255	
Ser Ala Thr Leu Gly Ser Leu	Leu Asp Asp Gln His	Trp His Xaa	Val
260	265	270	
Leu Ile Glu Arg Val Gly Lys	Gln Val Asn Phe Thr	Val Asp Lys	His
275	280	285	
Thr Gln His Phe Arg Thr	Lys Gly Glu Thr Asp	Ala Leu Asp	Ile Asp
290	295	300	
Tyr Glu Leu Ser Phe Gly	Gly Ile Pro Val Pro	Gly Lys Pro	Gly Thr
305	310	315	320
Phe Leu Lys Lys Asn Phe His	Gly Cys Ile Glu Asn	Leu Tyr	Tyr Asn
325	330	335	
Gly Val Asn Ile Ile Xaa	Leu Ala Lys Arg Arg	Lys His Gln	Ile Tyr
340	345	350	
Thr Val Gly Asn Val Thr	Phe Ser Cys Ser Glu Pro	Gln Ile Val	Pro
355	360	365	
Ile Thr Phe Val Asn Ser	Ser Gly Ser Tyr	Leu Leu Pro	Gly Thr
370	375	380	
Pro Gln Ile Asp Gly	Leu Ser Val Ser Phe	Gln Phe Arg	Thr Trp Asn
385	390	395	400
Lys Asp Gly Leu Leu	Ser Thr Glu Leu Ser	Glu Gly Ser	Gly Thr
405	410	415	
Leu Leu Leu Ser	Leu Glu Gly Ile	Leu Arg Leu Val	Ile Gln Lys
420	425	430	
Met Thr Glu Arg Val Ala	Glu Ile Leu Thr Gly	Ser Asn Leu Asn	Asp
435	440	445	
Gly Leu Trp His Ser Val	Ser Ile Asn Ala Arg	Arg Asn Arg	Ile Thr
450	455	460	
Leu Thr Leu Asp Asp	Glu Ala Ala Pro Pro	Ala Pro Asp Ser	Thr Trp
465	470	475	480
Val Gln Ile Tyr Ser	Gly Asn Ser Tyr	Tyr Phe Gly	Gly Val Cys Gln
485	490	495	
Thr Thr Val Asn Met	Glu Ala Ala Pro Ser	Pro Gly Leu	Pro Ser
500	505	510	
Ile Val Thr Ala Val	Thr Gln Val	Thr Leu Val	Pro Pro Ala
515	520	525	Thr Thr
Pro Ser Thr Ser Asn	Pro Ala Arg Cys	Thr Gly Thr	Arg Gly Ile Gln
530	535	540	
Pro Ala Ser Ser	Thr Ser Thr Gln	Met Ala Ala	His Trp Asp Leu
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Ser Arg Cys Thr Ala	Ile Ser Leu Arg	Thr Arg Ser	Gly His Gln Cys
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580			

<210> 13
<211> 1605
<212> DNA
<213> homo sapiens

<400> 13

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agagttggaa ctggcggttg gtccccagca gattccaatg ctcaacagtg gctccagatg	240
gacctggaa acagagtaga gattacagca gtggccacgc agggaaagata cggaagctct	300
gactgggtga cgagttacag cctgatgttc agtgcacacag gacgcaactg gaaacagtac	360
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ggcctgtggc actcggttag catcaacgcc aggaggaacc gcatcacgct cactctggat	1260
gatgaagcag caccccccgc tccagacagc acttgggtgc agatttattt tggaaatagc	1320
tactatttt gaggtgtttt ccaaactact gtgaacatgg aggaagctgc tcccagtcct	1380
ggactacctt ctattgttaac tgcagtgaca caagttacac tgggtccacc tgccacaact	1440
ccatctacga gcaatcctgc gaggtgtaca ggcaccaggg gaatacagcc ggcttcttct	1500
acatcgactc agatggcagc ggcccactgg gacctctcca ggtgtactgc aatatcactg	1560
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<210> 14
<211> 534
<212> PRT
<213> homo sapiens

<220>
<221> VARIANT
<222> (1)...(534)
<223> Xaa = Any Amino Acid

<400> 14

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20	25	30	
Pro Leu Ala Ser Leu Leu Ser Pro Met Ala Phe Ser Ser Ser Ser Asp			
35	40	45	
Leu Thr Gly Thr His Ser Pro Ala Gln Leu Asn Trp Arg Val Gly Thr			
50	55	60	
Gly Gly Trp Ser Pro Ala Asp Ser Asn Ala Gln Gln Trp Leu Gln Met			
65	70	75	80
Asp Leu Gly Asn Arg Val Glu Ile Thr Ala Val Ala Thr Gln Gly Arg			

85	90	95
Tyr Gly Ser Ser Asp Trp Val Thr	Ser Tyr Ser Leu Met Phe Ser Asp	
100	105	110
Thr Gly Arg Asn Trp Lys Gln Tyr	Lys Gln Glu Asp Ser Ile Trp Thr	
115	120	125
Phe Ala Gly Asn Met Asn Ala Asp Ser Val Val His His Lys Leu Leu		
130	135	140
His Ser Val Arg Ala Arg Phe Val Arg Phe Val Pro Leu Glu Trp Asn		
145	150	155
Pro Ser Gly Lys Ile Gly Met Arg Val Glu Val Tyr Gly Cys Ser Tyr		
165	170	175
Lys Ser Asp Val Ala Asp Phe Asp Gly Arg Ser Ser Leu Leu Tyr Arg		
180	185	190
Phe Asn Gln Lys Leu Met Ser Thr Leu Lys Asp Val Ile Ser Leu Lys		
195	200	205
Phe Lys Ser Met Gln Gly Asp Gly Val Leu Phe His Gly Glu Gly Gln		
210	215	220
Arg Gly Asp His Ile Thr Leu Glu Leu Gln Lys Gly Arg Leu Ala Leu		
225	230	235
His Leu Asn Leu Gly Asp Ser Lys Ala Arg Leu Ser Ser Leu Pro		
245	250	255
Ser Ala Thr Leu Gly Ser Leu Leu Asp Asp Gln His Trp His Xaa Val		
260	265	270
Leu Ile Glu Arg Val Gly Lys Gln Val Asn Phe Thr Val Asp Lys His		
275	280	285
Thr Gln His Phe Arg Thr Lys Gly Glu Thr Asp Ala Leu Asp Ile Asp		
290	295	300
Tyr Glu Gly Asn Val Thr Phe Ser Cys Ser Glu Pro Gln Ile Val Pro		
305	310	315
Ile Thr Phe Val Asn Ser Ser Gly Ser Tyr Leu Leu Leu Pro Gly Thr		
325	330	335
Pro Gln Ile Asp Gly Leu Ser Val Ser Phe Gln Phe Arg Thr Trp Asn		
340	345	350
Lys Asp Gly Leu Leu Ser Thr Glu Leu Ser Glu Gly Ser Gly Thr		
355	360	365
Leu Leu Leu Ser Leu Glu Gly Ile Leu Arg Leu Val Ile Gln Lys		
370	375	380
Met Thr Glu Arg Val Ala Glu Ile Leu Thr Gly Ser Asn Leu Asn Asp		
385	390	395
Gly Leu Trp His Ser Val Ser Ile Asn Ala Arg Arg Asn Arg Ile Thr		
405	410	415
Leu Thr Leu Asp Asp Glu Ala Ala Pro Pro Ala Pro Asp Ser Thr Trp		
420	425	430
Val Gln Ile Tyr Ser Gly Asn Ser Tyr Tyr Phe Gly Gly Val Cys Gln		
435	440	445
Thr Thr Val Asn Met Glu Glu Ala Ala Pro Ser Pro Gly Leu Pro Ser		
450	455	460
Ile Val Thr Ala Val Thr Gln Val Thr Leu Val Pro Pro Ala Thr Thr		
465	470	475
480		
Pro Ser Thr Ser Asn Pro Ala Arg Cys Thr Gly Thr Arg Gly Ile Gln		
485	490	495
Pro Ala Ser Ser Thr Ser Thr Gln Met Ala Ala Ala His Trp Asp Leu		
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Ser Arg Cys Thr Ala Ile Ser Leu Arg Thr Arg Ser Gly His Gln Cys		
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Ser Thr Thr Ile Gln Ser		

<210> 15
<211> 2238
<212> DNA
<213> homo sapiens

<400> 15

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gacctggaa	acagagtaga	gattacagca	gtggccacgc	agggaaagata	cggaagctct	300
gactgggtga	cgagttacag	cctgatgttc	agtgacacag	gacgcaactg	gaaacagtac	360
aaacaagaag	acagcatctg	gacctttgca	gaaaacatga	atgctgacag	cgtggtgac	420
cacaagctat	tgcactcagt	gagagcccga	tttgttcgct	ttgtgcccct	ggaatggaat	480
cccagtggga	agattggcat	gagagtcgag	gtctacggat	gttcctataa	atcagacgtt	540
gctgactttg	atggccgaag	ctcacttctg	tacaggttca	atcagaagtt	gatgagtact	600
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<210> 16
<211> 745
<212> PRT
<213> homo sapiens

<220>
<221> VARIANT
<222> (1)...(745)
<223> Xaa = Any Amino Acid

<400> 16

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35 40 45
Leu Thr Gly Thr His Ser Pro Ala Gln Leu Asn Trp Arg Val Gly Thr
50 55 60
Gly Gly Trp Ser Pro Ala Asp Ser Asn Ala Gln Gln Trp Leu Gln Met
65 70 75 80
Asp Leu Gly Asn Arg Val Glu Ile Thr Ala Val Ala Thr Gln Gly Arg
85 90 95
Tyr Gly Ser Ser Asp Trp Val Thr Ser Tyr Ser Leu Met Phe Ser Asp
100 105 110
Thr Gly Arg Asn Trp Lys Gln Tyr Lys Gln Glu Asp Ser Ile Trp Thr
115 120 125
Phe Ala Gly Asn Met Asn Ala Asp Ser Val Val His His Lys Leu Leu
130 135 140
His Ser Val Arg Ala Arg Phe Val Arg Phe Val Pro Leu Glu Trp Asn
145 150 155 160
Pro Ser Gly Lys Ile Gly Met Arg Val Glu Val Tyr Gly Cys Ser Tyr
165 170 175
Lys Ser Asp Val Ala Asp Phe Asp Gly Arg Ser Ser Leu Leu Tyr Arg
180 185 190
Phe Asn Gln Lys Leu Met Ser Thr Leu Lys Asp Val Ile Ser Leu Lys
195 200 205
Phe Lys Ser Met Gln Gly Asp Gly Val Leu Phe His Gly Glu Gly Gln
210 215 220
Arg Gly Asp His Ile Thr Leu Glu Leu Gln Lys Gly Arg Leu Ala Leu
225 230 235 240
His Leu Asn Leu Gly Asp Ser Lys Ala Arg Leu Ser Ser Ser Leu Pro
245 250 255
Ser Ala Thr Leu Gly Ser Leu Leu Asp Asp Gln His Trp His Xaa Val
260 265 270
Leu Ile Glu Arg Val Gly Lys Gln Val Asn Phe Thr Val Asp Lys His
275 280 285
Thr Gln His Phe Arg Thr Lys Gly Glu Thr Asp Ala Leu Asp Ile Asp
290 295 300
Tyr Glu Leu Ser Phe Gly Gly Ile Pro Val Pro Gly Lys Pro Gly Thr
305 310 315 320
Phe Leu Lys Lys Asn Phe His Gly Cys Ile Glu Asn Leu Tyr Tyr Asn
325 330 335
Gly Val Asn Ile Ile Xaa Leu Ala Lys Arg Arg Lys His Gln Ile Tyr
340 345 350
Thr Val Gly Asn Val Thr Phe Ser Cys Ser Glu Pro Gln Ile Val Pro
355 360 365
Ile Thr Phe Val Asn Ser Ser Gly Ser Tyr Leu Leu Leu Pro Gly Thr
370 375 380
Pro Gln Ile Asp Gly Leu Ser Val Ser Phe Gln Phe Arg Thr Trp Asn
385 390 395 400
Lys Asp Gly Leu Leu Leu Ser Thr Glu Leu Ser Glu Gly Ser Gly Thr
405 410 415
Leu Leu Leu Ser Leu Glu Gly Gly Ile Leu Arg Leu Val Ile Gln Lys
420 425 430
Met Thr Glu Arg Val Ala Glu Ile Leu Thr Gly Ser Asn Leu Asn Asp

435	440	445
Gly Leu Trp His Ser Val Ser	Ile Asn Ala Arg Arg	Asn Arg Ile Thr
450	455	460
Leu Thr Leu Asp Asp Glu Ala Ala Pro Pro Ala Pro Asp Ser Thr Trp		
465	470	475
Val Gln Ile Tyr Ser Gly Asn Ser Tyr Tyr Phe Gly Gly Cys Pro Asp		
485	490	495
Asn Leu Thr Asp Ser Gln Cys Leu Asn Pro Ile Lys Ala Phe Gln Gly		
500	505	510
Cys Met Arg Leu Ile Phe Ile Asp Asn Gln Pro Lys Asp Leu Ile Ser		
515	520	525
Val Gln Gln Gly Ser Leu Gly Asn Phe Ser Asp Leu His Ile Asp Leu		
530	535	540
Cys Ser Ile Lys Asp Arg Cys Leu Pro Asn Tyr Cys Glu His Gly Gly		
545	550	555
Ser Cys Ser Gln Ser Trp Thr Thr Phe Tyr Cys Asn Cys Ser Asp Thr		
565	570	575
Ser Tyr Thr Gly Ala Thr Cys His Asn Ser Ile Tyr Glu Gln Ser Cys		
580	585	590
Glu Val Tyr Arg His Gln Gly Asn Thr Ala Gly Phe Phe Tyr Ile Asp		
595	600	605
Ser Asp Gly Ser Gly Pro Leu Gly Pro Leu Gln Val Tyr Cys Asn Ile		
610	615	620
Thr Glu Asp Lys Ile Trp Thr Ser Val Gln His Asn Asn Thr Glu Leu		
625	630	635
Thr Arg Val Arg Gly Ala Asn Pro Glu Lys Pro Tyr Ala Met Ala Leu		
645	650	655
Asp Tyr Gly Gly Ser Met Glu Gln Leu Glu Ala Val Ile Asp Gly Ser		
660	665	670
Glu His Cys Glu Gln Glu Val Ala Tyr His Cys Arg Arg Ser Arg Leu		
675	680	685
Leu Asn Thr Pro Asp Gly Thr Pro Phe Thr Trp Trp Ile Gly Arg Ser		
690	695	700
Asn Glu Arg His Pro Tyr Trp Gly Gly Ser Pro Pro Gly Val Gln Gln		
705	710	715
Cys Glu Cys Gly Leu Asp Glu Ser Cys Leu Asp Ile Gln His Phe Cys		
725	730	735
Asn Cys Asp Ala Asp Lys Asp Glu Trp		
740	745	

<210> 17

<211> 2094

<212> DNA

<213> homo sapiens

<400> 17

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agagttggaa ctggcggttg gtccccagca gattccaatg ctcaacagtg gctccagatg	240
gacctggaa acagagtaga gattacagca gtggccacgc aggaaagata cggaagctct	300
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cccagtggaa agattggcat gagagtgcag gtctacggat gttcctataa atcagacgtt	540
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caccaatt	tgggtgacag	caaagcgcgg	ctcagcagca	gcttgccctc	tgccaccctg	780
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tactat	tttgggtgccc	cgacaatctc	accgattccc	aatgttaaa	tcccattaag	1380
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ccttacttggg	gaggttcccc	tcctgggtc	cagcagtgtg	agtgtggcct	agacgagagc	2040
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<210> 18
<211> 697
<212> PRT
<213> homo sapiens

<220>
<221> VARIANT
<222> (1)...(697)
<223> Xaa = Any Amino Acid

<400> 18

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									20					25	30	
Pro	Leu	Ala	Ser	Leu	Leu	Ser	Pro	Met	Ala	Phe	Ser	Ser	Ser	Ser	Asp	
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Leu	Thr	Gly	Thr	His	Ser	Pro	Ala	Gln	Leu	Asn	Trp	Arg	Val	Gly	Thr	
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Gly	Gly	Trp	Ser	Pro	Ala	Asp	Ser	Asn	Ala	Gln	Gln	Trp	Leu	Gln	Met	
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Asp	Leu	Gly	Asn	Arg	Val	Glu	Ile	Thr	Ala	Val	Ala	Thr	Gln	Gly	Arg	
									85					90	95	
Tyr	Gly	Ser	Ser	Asp	Trp	Val	Thr	Ser	Tyr	Ser	Leu	Met	Phe	Ser	Asp	
									100					105	110	
Thr	Gly	Arg	Asn	Trp	Lys	Gln	Tyr	Lys	Gln	Glu	Asp	Ser	Ile	Trp	Thr	
									115					120	125	
Phe	Ala	Gly	Asn	Met	Asn	Ala	Asp	Ser	Val	Val	His	His	Lys	Leu	Leu	
									130					135	140	
His	Ser	Val	Arg	Ala	Arg	Phe	Val	Arg	Phe	Val	Pro	Leu	Glu	Trp	Asn	

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Pro Ser Gly Lys Ile	Gly Met Arg Val	Glu Val Tyr Gly Cys Ser	Tyr
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Lys Ser Asp Val Ala	Asp Phe Asp Gly Arg Ser Ser	Leu Leu Tyr	Arg
180	185	190	
Phe Asn Gln Lys Leu	Met Ser Thr Leu Lys Asp Val	Ile Ser Leu	Lys
195	200	205	
Phe Lys Ser Met Gln	Gly Asp Gly Val Leu Phe His	Gly Glu Gly	Gln
210	215	220	
Arg Gly Asp His Ile	Thr Leu Glu Leu Gln Lys Gly Arg	Leu Ala	Leu
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His Leu Asn Leu	Gly Asp Ser Lys Ala Arg	Leu Ser Ser	Ser Leu Pro
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Ile Thr Phe Val Asn	Ser Ser Gly Ser Tyr Leu Leu Leu	Pro Gly Thr	
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Pro Gln Ile Asp Gly	Leu Ser Val Ser Phe Gln Phe Arg	Thr Trp Asn	
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Lys Asp Gly Leu Leu	Leu Ser Thr Glu Leu Ser Glu Gly	Ser Gly Thr	
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Ser Asp Gly Ser Gly	Pro Leu Gly Pro Leu Gln Val Tyr Cys Asn	Ile	
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Leu Asn Thr Pro Asp Gly Thr Pro Phe Thr Trp Trp Ile Gly Arg Ser		
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Asn Glu Arg His Pro Tyr Trp Gly Gly Ser Pro Pro Gly Val Gln Gln		
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Cys Glu Cys Gly Leu Asp Glu Ser Cys Leu Asp Ile Gln His Phe Cys		
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<213> homo sapiens

<220>

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Pro Leu Ala Ser Leu Leu Ser Pro Met Ala Phe Ser Ser Ser Ser Asp	
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Leu Thr Gly Thr His Ser Pro Ala Gln Leu Asn Trp Arg Val Gly Thr	
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Gly Gly Trp Ser Pro Ala Asp Ser Asn Ala Gln Gln Trp Leu Gln Met	
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Asp Leu Gly Asn Arg Val Glu Ile Thr Ala Val Ala Thr Gln Gly Arg	
85 90 95	
Tyr Gly Ser Ser Asp Trp Val Thr Ser Tyr Ser Leu Met Phe Ser Asp	
100 105 110	
Thr Gly Arg Asn Trp Lys Gln Tyr Lys Gln Glu Asp Ser Ile Trp Thr	
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Phe Ala Gly Asn Met Asn Ala Asp Ser Val Val His His Lys Leu Leu	
130 135 140	
His Ser Val Arg Ala Arg Phe Val Arg Phe Val Pro Leu Glu Trp Asn	
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Pro Ser Gly Lys Ile Gly Met Arg Val Glu Val Tyr Gly Cys Ser Tyr	
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Lys Ser Asp Val Ala Asp Phe Asp Gly Arg Ser Ser Leu Leu Tyr Arg	
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Phe Lys Ser Met Gln Gly Asp Gly Val Leu Phe His Gly Glu Gly Gln	
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Arg Gly Asp His Ile Thr Leu Glu Leu Gln Lys Gly Arg Leu Ala Leu	
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245 250 255	
Ser Ala Thr Leu Gly Ser Leu Leu Asp Asp Gln His Trp His Xaa Val	
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 Leu Thr Leu Asp Asp Glu Ala Ala Pro Pro Ala Pro Asp Ser Thr Trp
 465 470 475 480
 Val Gln Ile Tyr Ser Gly Asn Ser Tyr Tyr Phe Gly Gly Cys Pro Asp
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 Val Gln Gln Gly Ser Leu Gly Asn Phe Ser Asp Leu His Ile Asp Leu
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 Cys Ser Ile Lys Asp Arg Cys Leu Pro Asn Tyr Cys Glu His Gly Gly
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 Glu His Cys Glu Gln Glu Val Ala Tyr His Cys Arg Arg Ser Arg Leu
 675 680 685
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 690 695 700
 Asn Glu Arg His Pro Tyr Trp Gly Gly Ser Pro Pro Gly Val Gln Gln
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Ser Phe Lys Asp His Leu Pro Val Thr Gln Ile Val Ile Thr Asp Thr
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 Asp Arg Ser Asn Ser Glu Ala Ala Trp Arg Ile Gly Pro Leu Arg Cys
 770 775 780
 Tyr Gly Asp Arg Glu Tyr Lys Ile Glu Arg Ser Phe Leu Ser Ala Leu
 785 790 795 800
 His Glu His Lys Met Phe Leu Leu Pro Tyr Pro Phe Ser Leu Gln Cys
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Ser Ala Thr Leu Gly Ser Leu Leu Asp Asp Gln His Trp His Xaa Val	
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Thr Gln His Phe Arg Thr Lys Gly Glu Thr Asp Ala Leu Asp Ile Asp	
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Tyr Glu Gly Asn Val Thr Phe Ser Cys Ser Glu Pro Gln Ile Val Pro	
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Leu Leu Leu Ser Leu Glu Gly Gly	Ile Leu Arg Leu Val Ile Gln Lys	
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Met Thr Glu Arg Val Ala Glu Ile Leu Thr	Gly Ser Asn Leu Asn Asp	
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Gly Leu Trp His Ser Val Ser Ile Asn Ala	Arg Arg Asn Arg Ile Thr	
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Leu Thr Leu Asp Asp Glu Ala Ala	Pro Pro Ala Pro Asp Ser Thr Trp	
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Val Gln Ile Tyr Ser Gly Asn Ser	Tyr Tyr Phe Gly Gly Cys Pro Asp	
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Asn Leu Thr Asp Ser Gln Cys Leu Asn Pro	Ile Lys Ala Phe Gln Gly	
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Cys Met Arg Leu Ile Phe Ile Asp Asn Gln	Pro Lys Asp Leu Ile Ser	
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Tyr Gly Asp Arg Glu Tyr Lys Ile	Glu Arg Ser Phe Leu Ser Ala Leu	
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His Glu His Lys Met Phe Leu Leu	Pro Tyr Pro Phe Ser Leu Gln Cys	
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775

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 Ala Phe Ser Ser Ser Asp Leu Thr Gly Thr His Ser Pro Ala Gln
 35 40 45
 Leu Asn Trp Arg Val Gly Thr Gly Gly Trp Ser Pro Ala Asp Ser Asn
 50 55 60
 Ala Gln Gln Trp Leu Gln Met Asp Leu Gly Asn Arg Val Glu Ile Thr
 65 70 75 80
 Ala Val Ala Thr Gln Gly Arg Tyr Gly Ser Ser Asp Trp Val Thr Ser
 85 90 95
 Tyr Ser Leu Met Phe Ser Asp Thr Gly Arg Asn Trp Lys Gln Tyr Lys
 100 105 110
 Gln Glu Asp Ser Ile Trp Thr Phe Ala Gly Asn Met Asn Ala Asp Ser
 115 120 125
 Val Val His His Lys Leu Leu His Ser Val Arg Ala Arg Phe Val Arg
 130 135 140
 Phe Val Pro Leu Glu Trp Asn Pro Ser Gly Lys Ile Gly Met Arg Val
 145 150 155 160
 Glu Val Tyr Gly Cys Ser Tyr Lys Ser Asp Val Ala Asp Phe Asp Gly
 165 170 175
 Arg Ser Ser Leu Leu Tyr Arg Phe Asn Gln Lys Leu Met Ser Thr Leu
 180 185 190
 Lys Asp Val Ile Ser Leu Lys Phe Lys Ser Met Gln Gly Asp Gly Val
 195 200 205
 Leu Phe His Gly Glu Gly Gln Arg Gly Asp His Ile Thr Leu Glu Leu
 210 215 220
 Gln Lys Gly Arg Leu Ala Leu His Leu Asn Leu Gly Asp Ser Lys Ala
 225 230 235 240

Arg	Leu	Ser	Ser	Ser	Leu	Pro	Ser	Ala	Thr	Leu	Gly	Ser	Leu	Leu	Asp
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Asp	Gln	His	Trp	His	Ser	Val	Leu	Ile	Glu	Arg	Val	Gly	Lys	Gln	Val
					260			265							270
Asn	Phe	Thr	Val	Asp	Lys	His	Thr	Gln	His	Phe	Arg	Thr	Lys	Gly	Glu
					275			280							285
Thr	Asp	Ala	Leu	Asp	Ile	Asp	Tyr	Glu	Leu	Ser	Phe	Gly	Gly	Ile	Pro
					290			295							300
Val	Pro	Gly	Lys	Pro	Gly	Thr	Phe	Leu	Lys	Lys	Asn	Phe	His	Gly	Cys
					305			310		315					320
Ile	Glu	Asn	Leu	Tyr	Tyr	Asn	Gly	Val	Asn	Ile	Ile	Asp	Leu	Ala	Lys
					325			330							335
Arg	Arg	Lys	His	Gln	Ile	Tyr	Thr	Val	Gly	Asn	Val	Thr	Phe	Ser	Cys
					340			345							350
Ser	Glu	Pro	Gln	Ile	Val	Pro	Ile	Thr	Phe	Val	Asn	Ser	Ser	Gly	Ser
					355			360							365
Tyr	Leu	Leu	Leu	Pro	Gly	Thr	Pro	Gln	Ile	Asp	Gly	Leu	Ser	Val	Ser
					370			375							380
Phe	Gln	Phe	Arg	Thr	Trp	Asn	Lys	Asp	Gly	Leu	Leu	Ser	Thr	Glu	
					385			390		395					400
Leu	Ser	Glu	Gly	Ser	Gly	Thr	Leu	Leu	Leu	Ser	Leu	Glu	Gly	Gly	Ile
					405			410							415
Leu	Arg	Leu	Val	Ile	Gln	Lys	Met	Thr	Glu	Arg	Val	Ala	Glu	Ile	Leu
					420			425							430
Thr	Gly	Ser	Asn	Leu	Asn	Asp	Gly	Leu	Trp	His	Ser	Val	Ser	Ile	Asn
					435			440							445
Ala	Arg	Arg	Asn	Arg	Ile	Thr	Leu	Thr	Leu	Asp	Asp	Glu	Ala	Ala	Pro
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Pro	Ala	Pro	Asp	Ser	Thr	Trp	Val	Gln	Ile	Tyr	Ser	Gly	Asn	Ser	Tyr
					465			470		475					480
Tyr	Phe	Gly	Gly	Cys	Pro	Asp	Asn	Leu	Thr	Asp	Ser	Gln	Cys	Leu	Asn
					485			490							495
Pro	Ile	Lys	Ala	Phe	Gln	Gly	Cys	Met	Arg	Leu	Ile	Phe	Ile	Asp	Asn
					500			505							510
Gln	Pro	Lys	Asp	Leu	Ile	Ser	Val	Gln	Gln	Gly	Ser	Leu	Gly	Asn	Phe
					515			520							525
Ser	Asp	Leu	His	Ile	Asp	Leu	Cys	Ser	Ile	Lys	Asp	Arg	Cys	Leu	Pro
					530			535							540
Asn	Tyr	Cys	Glu	His	Gly	Gly	Ser	Cys	Ser	Gln	Ser	Trp	Thr	Thr	Phe
					545			550		555					560
Tyr	Cys	Asn	Cys	Ser	Asp	Thr	Ser	Tyr	Thr	Gly	Ala	Thr	Cys	His	Asn
					565			570							575
Ser	Ile	Tyr	Glu	Gln	Ser	Cys	Glu	Val	Tyr	Arg	His	Gln	Gly	Asn	Thr
					580			585							590
Ala	Gly	Phe	Phe	Tyr	Ile	Asp	Ser	Asp	Gly	Ser	Gly	Pro	Leu	Gly	Pro
					595			600							605
Leu	Gln	Val	Tyr	Cys	Asn	Ile	Thr	Glu	Asp	Lys	Ile	Trp	Thr	Ser	Val
					610			615							620
Gln	His	Asn	Asn	Thr	Glu	Leu	Thr	Arg	Val	Arg	Gly	Ala	Asn	Pro	Glu
					625			630		635					640
Lys	Pro	Tyr	Ala	Met	Ala	Leu	Asp	Tyr	Gly	Gly	Ser	Met	Glu	Gln	Leu
					645			650							655
Glu	Ala	Val	Ile	Asp	Gly	Ser	Glu	His	Cys	Glu	Gln	Glu	Val	Ala	Tyr
					660			665							670
His	Cys	Arg	Arg	Ser	Arg	Leu	Leu	Asn	Thr	Pro	Asp	Gly	Thr	Pro	Phe
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 Ser Pro Pro Gly Val Gln Gln Cys Glu Cys Gly Leu Asp Glu Ser Cys
 705 710 715 720
 Leu Asp Ile Gln His Phe Cys Asn Cys Asp Ala Asp Lys Asp Glu Trp
 725 730 735
 Thr Asn Asp Thr Gly Phe Leu Ser Phe Lys Asp His Leu Pro Val Thr
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 Gln Ile Val Ile Thr Asp Thr Asp Arg Ser Asn Ser Glu Ala Ala Trp
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 Arg Ile Gly Pro Leu Arg Cys Tyr Gly Asp Arg Arg Phe Trp Asn Ala
 770 775 780
 Val Ser Phe Tyr Thr Glu Ala Ser Tyr Leu His Phe Pro Thr Phe His
 785 790 795 800
 Ala Glu Phe Ser Ala Asp Ile Ser Phe Phe Phe Lys Thr Thr Ala Leu
 805 810 815
 Ser Gly Val Phe Leu Glu Asn Leu Gly Ile Lys Asp Phe Ile Arg Leu
 820 825 830
 Glu Ile Ser Ser Pro Ser Glu Ile Thr Phe Ala Ile Asp Val Gly Asn
 835 840 845
 Gly Pro Val Glu Leu Val Val Gln Ser Pro Ser Leu Leu Asn Asp Asn
 850 855 860
 Gln Trp His Tyr Val Arg Ala Glu Arg Asn Leu Lys Glu Thr Ser Leu
 865 870 875 880
 Gln Val Asp Asn Leu Pro Arg Ser Thr Arg Glu Thr Ser Glu Glu Gly
 885 890 895
 His Phe Arg Leu Gln Leu Asn Ser Gln Leu Phe Val Gly Gly Thr Ser
 900 905 910
 Ser Arg Gln Lys Gly Phe Leu Gly Cys Ile Arg Ser Leu His Leu Asn
 915 920 925
 Gly Gln Lys Met Asp Leu Glu Glu Arg Ala Lys Val Thr Ser Gly Val
 930 935 940
 Arg Pro Gly Cys Pro Gly His Cys Ser Ser Tyr Gly Ser Ile Cys His
 945 950 955 960
 Asn Gly Gly Lys Cys Val Glu Lys His Asn Gly Tyr Leu Cys Asp Cys
 965 970 975
 Thr Asn Ser Pro Tyr Glu Gly Pro Phe Cys Lys Lys Glu Val Ser Ala
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 Val Phe Glu Ala Gly Thr Ser Val Thr Tyr Met Phe Gln Glu Pro Tyr
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 Pro Val Thr Lys Asn Ile Ser Leu Ser Ser Ser Ala Ile Tyr Thr Asp
 1010 1015 1020
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 Ala Pro Ser Leu Leu Phe Ile Asn Ser Ser Ser Gln Asp Phe Val
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 1090 1095 1100
 Thr Ile Gln Met Asp Gln Gln Leu Arg Leu Ser Tyr Asn Phe Ser Pro
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 Glu Val Glu Phe Arg Val Ile Arg Ser Leu Thr Leu Gly Lys Val Thr
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Glu Asn Leu Gly Leu Asp Ser Glu Val Ala Lys Ala Asn Ala Met Gly
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 Lys Ala Ala Leu Arg His Ala Thr Val Ala Pro Val Thr Val His Gly
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 Thr Leu Thr Glu Ser Ser Cys Gly Phe Met Val Asp Ser Asp Val Asn
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 Ala Val Thr Thr Val His Ser Ser Asp Pro Phe Gly Lys Thr Asp
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 Glu Arg Glu Pro Leu Thr Asn Ala Val Arg Ser Asp Ser Ala Val Ile
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 Gly Gly Val Ile Ala Val Val Ile Phe Ile Ile Phe Cys Ile Ile Gly
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 Gln Met Lys Glu Lys Glu Tyr Pro Glu Asn Leu Asp Ser Ser Phe Arg
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Phe Ile

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<211> 3528

<212> DNA

<213> Homo sapiens

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<212> PRT
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<400> 26

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							20				25			30	
Ile	Gly	Met	Arg	Val	Glu	Val	Tyr	Gly	Cys	Ser	Tyr	Lys	Ser	Asp	Val
							35		40			45			
Ala	Asp	Phe	Asp	Gly	Arg	Ser	Ser	Leu	Leu	Tyr	Arg	Phe	Asn	Gln	Lys
							50		55			60			
Leu	Met	Ser	Thr	Leu	Lys	Asp	Val	Ile	Ser	Leu	Lys	Phe	Lys	Ser	Met
							65		70			75			80
Gln	Gly	Asp	Gly	Val	Leu	Phe	His	Gly	Glu	Gly	Gln	Arg	Gly	Asp	His
								85		90			95		
Ile	Thr	Leu	Glu	Leu	Gln	Lys	Gly	Arg	Leu	Ala	Leu	His	Leu	Asn	Leu
								100		105			110		
Gly	Asp	Ser	Lys	Ala	Arg	Leu	Ser	Ser	Ser	Leu	Pro	Ser	Ala	Thr	Leu
								115		120			125		
Gly	Ser	Leu	Leu	Asp	Asp	Gln	His	Trp	His	Ser	Val	Leu	Ile	Glu	Arg

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Val	Gly	Lys
Gln	Val	Asn
Phe	Thr	Val
Arg	Asp	Lys
His	Thr	Gln
His	Phe	
145	150	155
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Arg	Thr	Lys
Gly	Glu	Thr
Asp	Ala	Leu
Asp	Ile	Asp
Tyr	Glu	Leu
Ser		
165	170	175
Phe	Gly	Gly
Ile	Pro	Val
Pro	Gly	Lys
Pro	Gly	Thr
Phe	Leu	Lys
180	185	190
Asn	Phe	His
Gly	Cys	Ile
Glu	Asn	Leu
Tyr	Tyr	Asn
Gly	Val	Asn
Ile		
195	200	205
Ile	Asp	Leu
Ala	Lys	Arg
Arg	Lys	His
Gln	Ile	Tyr
Thr	Val	Gly
Asn		
210	215	220
Val	Thr	Phe
Ser	Cys	Ser
Glu	Pro	Gln
Ile	Val	Pro
Ile	Thr	Phe
Val		
225	230	235
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Asn	Ser	Ser
Gly	Ser	Tyr
Leu	Leu	Leu
Leu	Pro	Gly
Gly	Thr	Pro
Gln	Ile	Asp
Gly		
245	250	255
Gly	Leu	Ser
Val	Ser	Phe
Gln	Phe	Arg
Arg	Thr	Trp
Asn	Lys	Asp
Gly	Leu	
260	265	270
Leu	Leu	Ser
Thr	Glu	Leu
Ser	Glu	Gly
Gly	Ser	Gly
Thr	Leu	Leu
Leu	Leu	Ser
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Leu	Glu	Gly
Ile	Ile	Arg
Leu	Val	Ile
Gln	Lys	Met
Lys	Met	Thr
Glu	Aрг	
290	295	300
Val	Ala	Glu
Ile	Ile	Leu
Thr	Gly	Ser
Asn	Leu	Asn
Asp	Gly	Leu
Trp	Trp	His
305	310	315
320		
Ser	Val	Ser
Ile	Asn	Ala
Arg	Arg	Asn
Asn	Arg	Ile
Arg	Thr	Leu
Thr	Leu	Asp
Leu		
325	330	335
Asp	Glu	Ala
Ala	Pro	Pro
Ala	Pro	Asp
Asp	Ser	Thr
Thr	Trp	Val
Trp	Val	Gln
His	Ile	Ile
Tyr	Arg	
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Ser	Gly	Asn
Ser	Tyr	Tyr
Phe	Gly	Gly
Gly	Cys	Pro
Pro	Asp	Asn
Asn	Leu	Thr
Asp	Asp	Asp
Asn	Leu	Thr
Gln	Gly	Asp
Asn	Gly	Asn
Gly	Asn	Thr
Thr	Ala	Gly
Phe	Phe	Tyr
Tyr	Ile	Asp
Ile	Ser	Asp
Ser	Val	Gln
Gln	Gly	Gly
Asn	Asn	
405	410	415
Asp	Arg	Cys
Leu	Pro	Asn
Tyr	Cys	Glu
Cys	His	Gly
Gly	Ser	Ser
Cys	Ser	Cys
Ser	Ile	Ser
Gln	Gly	Gly
Asn	Asn	
420	425	430
Ser	Trp	Thr
Thr	Phe	Tyr
Cys	Asn	Cys
Ser	Asp	Thr
Asp	Tyr	Thr
Thr	Gly	
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Ala	Thr	Cys
His	Asn	Ser
Asn	Ile	Tyr
Ile	Glu	Gln
Gln	Ser	Cys
Ser	Cys	Glu
Glu	Val	Val
Tyr	Tyr	Arg
Arg	Val	
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His	Gln	Gly
Gly	Asn	Asn
Asn	Thr	Ala
Thr	Gly	Phe
Phe	Tyr	Ile
Ile	Asp	Asp
Asp	Ser	Asp
Asp	Gly	Gly
465	470	475
480		
Gly	Pro	Leu
Leu	Gly	Pro
Pro	Leu	Gln
Leu	Val	Val
Tyr	Cys	Asn
Cys	Ile	Thr
Asn	Glu	
485	490	495
Ile	Trp	Thr
Thr	Ser	Val
Val	Gln	His
His	Asn	Asn
Asn	Asn	Thr
Thr	Glu	Leu
Glu	Leu	Thr
Arg	Arg	Arg
Arg	Val	
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Glu	Pro	Tyr
Tyr	Ala	Met
Ala	Leu	Asp
Leu	Asp	Tyr
Tyr	Gly	Gly
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Ser	Met	Glu
Gln	Leu	Glu
Leu	Glu	Ala
Glu	Ala	Val
Ala	Val	Ile
Val	Ile	Asp
Asp	Gly	Gly
Gly	Ser	Gly
Ser	Glu	His
Gly	Cys	Glu
Glu	Asn	
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Gln	Glu	Val
Gl	Ala	Tyr
Tyr	His	Cys
His	Arg	Arg
Arg	Ser	Arg
Ser	Leu	Leu
Leu	Leu	Asn
Asn	Thr	Pro
Thr	Pro	Phe
Phe	Thr	Trp
Trp	Ile	Gly
Gly	Arg	Arg
Arg	Ser	Asn
Asn	Glu	Arg
Glu	Arg	His
Asp	Gly	
545	550	555
560		
Asp	Gly	Thr
Thr	Pro	Phe
Phe	Thr	Trp
Trp	Ile	Gly
Gly	Arg	Arg
Arg	Ser	Asn
Asn	Glu	Arg
Glu	Arg	His
Asp	Gly	
565	570	575
Pro	Tyr	Trp
Trp	Gly	Gly
Gly	Ser	Pro
Pro	Gly	Val
Gly	Val	Gln
Gln	Gly	Cys
Cys	Glu	Cys
Gly		

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Asp Lys Asp Glu Trp Thr Asn Asp Thr Gly Phe Leu Ser Phe Lys Asp		
610	615	620
His Leu Pro Val Thr Gln Ile Val Ile Thr Asp Thr Asp Arg Ser Asn		
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Ile Asp Val Gly Asn Gly Pro Val Glu Leu Val Val Gln Ser Pro Ser		
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Leu Leu Asn Asp Asn Gln Trp His Tyr Val Arg Ala Glu Arg Asn Leu		
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Lys Glu Thr Ser Leu Gln Val Asp Asn Leu Pro Arg Ser Thr Arg Glu		
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Ala Asp Asn Phe Ala Asn Arg Arg Met His His Leu Lys Ile Asn Arg		
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Tyr Asn Phe Ser Pro Glu Val Glu Phe Arg Val Ile Arg Ser Leu Thr		
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Leu Gly Lys Val Thr Glu Asn Leu Gly Leu Asp Ser Glu Val Ala Lys		
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Ala Asn Ala Met Gly Phe Ala Gly Cys Met Ser Ser Val Gln Tyr Asn		

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